# Precision Resistance Temperature Detector Simulator

## RTD Series



**The RTD Series Precision RTD (Resistance Temperature Detector) Simulator provides a very broad-range of absolute resistance values. The RTD simulator effectively replaces an RTD to test, analyze, and calibrate RTD measuring systems. The RTD Series is ideal where applications of Resistance Temperature Detector (RTD) simulation require exact low value resistance without "zero" and contact resistance effects.**

**See also:**
- Programmable models: **PRTD Series**


*Model **RTD-Z-6-.001** High Accuracy RTD Simulator*

**Features:**

- 50 ppm absolute accuracy
- 1 mΩ resolution
- No "zero" resistance; direct setting
- Highest performance RTD simulator available
- Highest accuracy, highest stability, lowest TC
- wide range - 10 Ω to 1111.110 Ω
- Virtually independent of contact resistance variation
- Ideal for DIN PT-100, PT-100 ANSI, PT-50 and NI-120 systems

## SPECIFICATIONS

| Model | RTD-Z-6-.001 | RTD-X-6-.001 | RTD-Z-6-.01 | RTD-X-6-.01 |
|---|---|---|---|---|
| Minimum resistance (Ω) | 10.000 | 10.000 | 10.00 | 10.00 |
| Maximum resistance (Ω) | 1,111.110 | 1,111.110 | 11,111.10 | 11,111.10 |
| Resolution (mΩ) | 1 | 1 | 10 | 10 |
| Number of decades | 6 | 6 | 6 | 6 |
| Absolute accuracy (ppm) | 50 | 100 | 50 | 100 |
| Tempco max. (ppm/°C) | 5 | 5 | 5 | 5 |
| Tempco typical (ppm/°C) | 3 | 3 | 3 | 3 |
| Stability (ppm/24hrs) | 2 | 2 | 2 | 2 |
| Stability (ppm/year) | 10 | 10 | 10 | 10 |
| Dimensions | | | | |
| W cm (in) | 43.9(17.3) | 43.9(17.3) | 43.9(17.3) | 43.9(17.3) |
| H cm (in) | 8.9(3.5) | 8.9(3.5) | 8.9(3.5) | 8.9(3.5) |
| D cm (in) | 10.2(4) | 10.2(4) | 10.2(4) | 10.2(4) |

**Switch Setting:**
The 10 Ω switch has two stops at positions 1 and 10. Absolute accuracy, *without* zero subtraction, is accomplished by having a minimum settable resistance, *which includes all contact and wiring resistances.* Absolute accuracy applies for every setting. See **table above** for the minimum settable resistance for any model. Minimum settable resistance is implemented by a mechanical stop in one of the decades.

**Maximum Power for rated accuracy:**
100 mW or 100 mA for 10.000 to 10.999 Ω; 100 mW per step for the highest decade in use for 11 Ω and over.

**Terminals:**
Four, 5-way, gold-plated, tellurium-copper binding posts with low thermal emf and low resistance, for four-terminal Kelvin measurements, plus one binding post connected to case for shielding.

**Connection to Terminals:**
2 terminal devices: use **H** and **L CURRENT** terminals
3 terminal devices: use **H CURRENT** - **L CURRENT** and **G** terminals;
4 terminal devices: use all **CURRENT** and **SENSE** terminals. (Note: Ground Strap is the only connection between **CURRENT** and **SENSE** terminals.)

**Switch type:**
Multiple solid silver contacts; dust-tight diallyl-phthalate body.
To allow continuous rotation, a blank position is added on all decades except the 10 Ω decade.

**Resistor type:**
Wirewound, hermetically sealed, low-inductance

**Maximum Current:** 200 mA.

**Breakdown Voltage:** 1000 V.

**Environmental conditions:**
**Operating temperature:** 0ºC to 55ºC.
**Storage temperature:** -40ºC to 70ºC.
**Humidity:** <80% RH.

## ORDERING INFORMATION

| | |
|---|---|
| **RTD-Z-6-.001** | High Accuracy RTD Simulator, 1,111 Ω, 1 mΩ resolution, 50 ppm accuracy |
| **RTD-X-6-.001** | High Accuracy RTD Simulator, 1,111 Ω, 1mΩ resolution, 100 ppm accuracy |
| **RTD-Z-6-.01** | High Accuracy RTD Simulator, 11,111 Ω, 10 mΩ resolution, 50 ppm accuracy |
| **RTD-X-6-.01** | High Accuracy RTD Simulator, 11,111 Ω, 10 mΩ resolution, 100 ppm accuracy |

**Options:**
-RH Rear output is available as an option.
-RM Rack mountable case for standard 19" rack

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